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APPENDIX

To the HISTORY of the

Lateral Operation

For the Stone.

Containing

Mr. *C H E S E L D E N*'s
PRESENT METHOD
of Performing it.

By Dr. *JAMES DOUGLAS.*



L O N D O N :

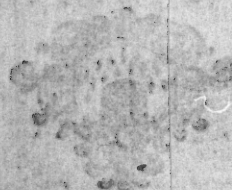
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APPENDIX

Lateral Operation

M. CHESTERMAN
PRESENT METHOD



LONDON

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THE
P R E F A C E.



S some may be apt to find Fault with the tedious Prolixity of the following Description, and with the needless repeatition of a great many Particulars, which being common to Mr. *Cheselden's* Operation with all the other Methods of extracting a Stone out of the Bladder, are consequently to be found in almost every Book of *Lithotomy*; I think it necessary to acquaint my Reader, that this very long Account was unavoidable in the Plan I laid down when I first undertook this Description. The great

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and uncommon Success of Mr. *Chefelden's* new Method, became not only the Subject of all Conversation here at Home, but also very much alarmed the Surgeons Abroad, particularly those of *Paris*, from whence Mr. *Morand*, of the Royal Academy of Sciences, a most ingenious Lithotomist, made a Journey to *London* on purpose to see Mr. *Chefelden* cut for the Stone. Since that Time, they have not only endeavoured to introduce his Method in *Paris*, but have even published to the World several Accounts of the Manner of performing it: Of these I have seen three or four, which tho' they all contain many of the essential Parts of his Operation (for a Reason which none can be at a loss to guess, and which I need not to mention) yet there is something wanting in every one of them; I resolved therefore, for the Credit of the *English* Surgery, and of the Operation itself where-ever it may hereafter be put in Practice, to give, once for all, Mr. *Chefelden's*

P R E F A C E.

den's whole Method of proceeding in it, without distinguishing what he has in common with the other Ways, or what he has retained of his first Manner, from what he has thought fit to introduce in this.

AND, if I may judge from the Accounts which have hitherto appeared, this Detail will be of some Use even to the *Parisian* Surgeons themselves, notwithstanding they have the best Opportunities in the World of making the necessary Experiments for every Operation; but it must infinitely be more so to Surgeons of other Places, both at Home and Abroad, who have not such Advantages, or have them but seldom: Neither is this all, for tho', upon a transient View of my Description, many things may appear at first Sight to be the same, in this new Method, with what they are in the other Ways of Cutting; yet, on a more attentive Comparifon of both, I believe

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lieve it will be found, that almost in every Step of the Operation, as well as of the Method of Cure, Mr. *Cheselden* has added some things of his own, which, tho' they may not all perhaps be looked upon as peculiar to his present Manner, ought, at least, to be regarded as Improvements of the old ones.

I NEED not mention how much I am obliged to Mr. *Cheselden* for the chief Materials of this Paper; it was impossible to draw it up to good purpose without him; and since he has been so kind as to communicate to me, with the greatest Readiness, and without Reserve, all the Particulars which I could not otherwise have come to the Knowledge of, I am confident, that none will pretend to dispute but what I here describe is his Operation, and his whole Operation.

THE

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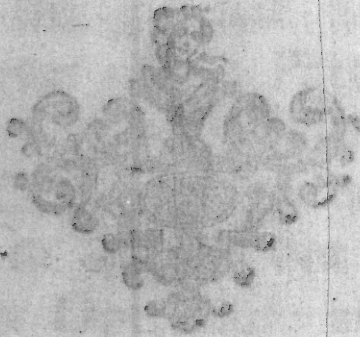
THE particular Enumeration of the Parts concerned in Method; the Comparifon of it with the old Way, to fhew its Advantages; together with the Explanation of the Figures of his Instruments; are entirely my own, and, I hope, will need no Apology.



Mr.

P R E F A C E

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Mr. CHESelden's
METHOD
OF
Cutting for the STONE.



THE Learned Professor *Albinus*, having published an excellent Description of M. *Rau's* Method of Cutting for the Stone, which he was so good as to present me with, I drew up a short Abstract thereof, and communicated it to the Royal Society. From that Time, our Lithotomists beginning to think seriously about this Method, it became the Subject of frequent Conversations and Experiments amongst many of my ingenious Friends; and this insensibly engaged

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me to compile a particular Account of all that had been formerly done about it, which was soon after publish'd in a Treatise called, *The History of the Lateral Operation*; in which I began by a Collection of all that I could meet with in Books concerning the famous *Frere Jacques*, and his Manner of Cutting. I next explain'd the Improvements thereof propos'd by the ingenious M. *Mery*, and afterwards those actually introduced by Professor *Rau*; and I concluded with the Alterations made in it by Mr. *Chefelden*, when it came to be practised in our Hospitals. Since that Time Mr. *Chefelden* has, for very good Reasons, laid this Method aside, and substituted another, very different, in its Room, which he now practises with great Applause, and vast Success, having saved 50 Patients out of 52, whom he Cut successively in St. *Thomas's* Hospital. This new *Lateral Operation* is what I have here undertaken to describe; and that under the following Heads, and in the same Order in which the like Chirurgical Operations are commonly described by Authors, viz.

I. A DESCRIPTION of the Instruments he makes use of.

II. THE Dressings, and every thing else that is to be got ready before the Operation begins.

III. THE Preparation of the Patient's Body.

IV. THE

IV. THE Way of performing the Operation it self.

V. THE Method of Cure.

TO these I will add,

VI. A PARTICULAR Enumeration of all the Parts cut, or any other Way concerned in this Lateral Section.

VII. A COMPARATIVE View of this Operation with that of *Marianus*, now generally called the *Old Way*, founded chiefly on the Structure of the Parts; and from the different Management of these in each Method, I will endeavour to shew the numerous Advantages which must attend that of Mr. *Chefelden*.

I. *The* INSTRUMENTS.

HIS *Instruments*, which indeed he seems to have carry'd to a very great Perfection, whether we consider their small Number, their Lightness, their Simplicity, or how well they are fitted for their several Uses, are no more than Five in Number, *viz.*

1. A Staff, or grooved Catheter.
2. An Incision Knife.
3. A Gorgeret.
4. A Pair of Forceps : And,
5. A crooked Needle carrying a waxed Thread.

1. THE *Staff* consists of a Handle and grooved Part. The Handle is entirely strait, beginning by a smooth flat Plate in Form of a longish Heart, which, in one fitted to a Man full grown, for they are of different Sizes (as all the rest are) proportioned to the Age of the Patient, is near one Inch and an half in length, and an Inch in breadth at the Basis; the rest of the Handle is round and solid, four Inches and three quarters in length. To the Extremity of this, the grooved Part is joined, which by a Thread laid along it, measures five Inches and a half. The *Sulcus* or Groove is remarkably deep and wide, the Edges smooth and blunt; one End of it reaches a little way down on the Handle, and the other, ending in an obtuse Point, is without any Check, as is seen in your common Staffs. This Part may again be divided into a curved Portion and a strait *Rostrum* or Beak. The Curvature next the Handle not very great, and extends but a little way back from it; and from the Extremity thereof, the long *Rostrum* projects almost directly forward. He chuses to have his Staff made of Steel, because the rubbing of the Gorgeret against it is better felt by the Operator, than if it was of Silver, which is a softer Metal. Besides, a Steel Staff will allow of a larger Groove than a Silver one of the same Size, without being too much weakened thereby.

2. THE *Knife* is about seven Inches in length, of which a pretty thick and flattish wooden Handle takes
up

up four Inches and a quarter ; the Blade is divided into a blunt Shoulder and edged Part. The Shoulder is about half an Inch in Length, and something less in Breadth, being every where of an equal Thickness. The greatest Breadth of the edged Part is much the same with that of the Shoulder ; the Edge it self is gently convex, ending in a sharp Point, formed on the opposite Side by the sloping of the Back for about half an Inch next this End. The Back near this Point is made thin enough to run freely in the Groove of the Staff ; the rest is rounded and well polished, that it may slide the easier in the Groove when he has Occasion to use it that Way:

3. THE *Gorgeret* or *Gorget* is a smooth, thin Plate of Steel, consisting of a concave or hollow Part and an Handle. The deep, hollow, grooved Part, to which the Back or convex Side exactly answers, is an Inch in Breadth at the Handle, and from thence decreases regularly in Breadth all the way to the other End, which is narrow and rounded backward, being about three eighth Parts of an Inch towards the convex Side, but running down about as much more thro' the Middle of the Groove. The whole Length of the Groove is five Inches and a quarter, the upper wide Extremity goes sloping towards the Handle, which is fixed to the other Side at an obtuse Angle, that so it may lie out of the Way of the Operator's Hand and Forceps. This Handle is flat, increasing a little in Breadth towards its rounded Extremity,

Extremity, and is about two Inches and a half in Length.

4. THE Sizes of the *Forceps* are different, as well as of the Staff, and, for the same Reason, the longest that I have ever seen Mr. *Chefelden* use was about twelve Inches; the Chops of it are outwardly convex, both according to their Breadth and Length, and inwardly concave, or a little hollow, the Joint being so contrived; as to hinder the Chops from shutting close at the Ends, and so prevent the Danger of pinching the Bladder. The Insides of them are toothed for about one third of their Length, next the Extremity; the rest is smooth, that in case the Stone should be laid hold of thereby, it may more easily slip down to the rough Part, where it is both more firmly and more advantageously held: When the Forceps is shut, the greatest Circumference of the Chops is about three Inches. They increase a little in Breadth from the Joint to the rounded Ends, and are three quarters of an Inch at the broadest Place; their Length is three Inches and a half in a strait Line. The two Sides of the Handle are strait for above half their Length, from the Joint downward; then they divaricate outward in a bending manner, that they may be more firmly held, and terminate one in a Ring for the Operator's Thumb, the other in a deep kind of Hook for his Fingers.

IN a smaller Pair of Forceps which I measured, the Length was about nine Inches; that of the Chops near
three

three Inches ; Breadth half that of the largest Pair, and Circumference about an Inch and three quarters. This Pair he calls his favourite Forceps; and it is but seldom that he is obliged to make use of any other.

5. THE crooked Needle is not much different from the common ; it is bent into an Arch that makes about the third Part of a Circle, that so it may pass the easier. The Thread with which he ties the Vessels, is of the same sort that the Shoemakers use, which being waxed, makes the smoothest and strongest Ligature.

		Ounces.	Drachms.	Grains.
The Staff	} weighs {	3i.	3iii ss.	—
The Knife		—	3vi.	—
The Gorgeret		3i.	3iii.	—
The Forceps		3xii.	3i.	—
The Needle		—	—	xvi.

N. B. The small Forceps weighs only six Ounces.

ALL these Instruments, being first duly prepared and fitted for Use, are laid in a broad, flat, earthen Dish, filled with warm Water, and placed on the Right-hand of the Operator, where an Assistant stands ready to deliver them to him as he calls for them, being first wiped dry, and to take them back as soon as he has done with them.

II. *The* DRESSINGS.

THE *Dressings* required to be got ready before the Operation, consist only of a few Pledgits, some of them spread with a Digestive made of equal Parts of common Turpentine and Linseed-Oil, and one third Part of yellow Bees-wax; Styptick-water in a Phial; Sweet-oil in a Saucer; a Bit of Sponge, and a Bundle of Tow. All these are laid in another flat earthen Dish set near the former.

III. *The* T A B L E.

A convenient *Table*, upon which the Patient is to be Cut, is likewise to be got ready. It is made of a square, thick Piece of Wood, three Foot and a half in Length, and about two and a half in Breadth, supported sometimes only by two Tressels with three Feet, but most commonly, which is better, by a quadrangular Frame, three Foot high, fixed to the Floor in a good Light, and where the Assistants can easily stand round it. For this Purpose, it is best placed obliquely, pretty near a Window, so that the Rays may fall directly on the Left Side of the *Perinæum*, and the Operator's Hand not lie in his own Light. This Table is covered with several Doubles of a thick Blanket nailed to its Sides, over which a clean coarse Sheet is thrown and bound down by a Swathe cross its Middle;

Middle; at one End is laid a small Pillow, and over the other the Sheet hangs down, and upon it is commonly thrown another Cloth that is removed, and a clean one laid on, if he cuts more than one at a Time.

The Preparation of the Patient.

ALL the Preparation Mr. Cheselden thinks needful, is, to give the Patient a gentle Purge the Day before he is to be cut; and if it should not work sufficiently, he directs a common Clyster to be given in the Evening, to empty the lower wide Part of the Rectum, which being filled and distended with Fæces, might be in Danger of being hurt in the Operation.

The Operation itself.

EVERY thing necessary being in this manner got ready, the Patient, in a loose Night-Gown, his Head and Legs covered, but nothing tight about his Neck or Belly, is brought from the Cutting-Ward in the Hospital to the Theatre, for here I suppose the Scene of Action, and laid on the Table, his Head resting on the Pillow, and his Hips on its lower Edge. In this Situation he is tyed, as in the greater Apparatus, that is, his Wrists are gently brought down to the Out-sides of his Ancles, and secured there by proper Bandages, his Knees having first been bent, and his Heels brought

back near his Buttocks: then, his Thighs being raised and separated from one another, he is kept in this Posture by two Assistants (commonly Apprentices to some of the Hospital Surgeons) during the whole Time of the Operation, they holding his Ancles with one Hand, and his Knees with the other: there is one more standing at his Shoulders, in order to prevent his rising up or retiring from the Operator while he makes the Incision.

THEN Mr. *Chefelden*, standing before the Patient at the End of the Table, takes the Catheter, first dipt in Oil, and introduces it in the usual manner through the *Urethra* into the Bladder, where having searched for and discovered the Stone, he delivers it to one of his fellow Surgeons standing on his Right-hand, whom he desires first of all to satisfy himself whether there be a Stone or not; and then this Assistant, holding the Handle between his Fingers and Thumb, inclines it a little towards the Patient's right Thigh, drawing the convex Side close up to the *Os Pubis*, near the Commis-
sure or Joining of the Bones, to remove or bear up the *Urethra* as far as may be from the *Intestinum Rectum*, being frequently desired by Mr. *Chefelden*, not to push it down, nor make the convex or grooved Side thrust the Parts forwards or outwards towards the *Peri-
naeum*; for tho' by so doing the Place of the external Wound would in some measure be ascertained, and the Groove of the Catheter be more easily found in making the internal one; yet the Danger of bringing the *Ure-
thra*

thra nearer the *Rectum*, which, in that case, is more liable to be cut, does more than counter-balance these seeming Advantages. Besides, in his Method of operating, there can be very little Occasion for any such Contrivance, were it attended with no Inconveniency, the external Wound being very large and deep.

THE Staff being fixed in this Situation, and its grooved Part being turned outward and laterally, Mr. *Chefelden* sits down in a low Chair, and drawing the Patient nearer him, till his Buttocks reach a little over the Edge of the Table, his Feet being quite off from it, takes his Knife, which he sometimes arms with a little Tow rolled about it, to prevent his Fingers from slipping when it becomes wetted with the Blood, and holding it firm in his Right-hand, his Thumb on the Inside of the Blade, his Fore-finger on the Outside opposite to it, his Middle-finger on the Outside of the Handle, and the Extremities of the rest on its upper Edge. Then distending and keeping steady the Skin of the *Perinæum* with the Thumb and Fore-finger of his Left-hand, he makes the first or outward Incision, thro' the Integuments from above downwards, beginning on the Left-side of the *Raphe* or Seam, between the *Scrotum* and Verge of the *Anus*, almost as high up as where the Skin of the *Perinæum* begins to dilate and form the Bag that contains the Testicles; and from thence he continues the Wound obliquely outwards, as low down as the Middle of the Margin of the *Anus*, at about

half an Inch distance from it near the Skin, and consequently beyond the great Protuberance of the *Ischium*. The first or upper Part of this Incision is but superficial; after that he plunges his Knife much deeper by the Side of the *Rectum*, and finishes it by drawing his Knife obliquely towards himself; these three Motions may always be observed in his external Incision, but the last is performed pretty much at Random, there being here no Danger of doing any Mischief; and indeed I have, however, often observed that he is very little solicitous about the precise Place and Limits of the external Wound, for I have seen him sometimes cut the Skin much nearer the *Anus*; sometimes at a greater Distance from it; sometimes he begins the Incision very high up, at other times lower down (and all this Variety in Patients of the same Bigness or Size); but his Intention and principal Design is to make the Wound as large as he can with Safety, always avoiding to wound the vesicular Membrane of the *Scrotum*.

HAVING cut the Fat pretty deep, especially near the *Intestinum Rectum*, covered by the *Sphincter* and *Levator Ani*, he puts the Fore-finger of his Left-hand into the Wound, and keeps it there till the internal Incision is quite finished; first to direct the Point of his Knife into the Groove of his Staff, which he now feels with the End of his Finger, and likewise to hold down the *Intestinum Rectum*, by the Side of which his Knife is to pass, and so prevent its being wounded. This
inward

inward Incision is made with more Caution and more Leisure than the former.

HIS Knife first enters the Groove of the rostrated or strait Part of his Catheter, thro' the Sides of the Bladder, immediately above the *Prostata*, and afterwards the Point of it continuing to run in the same Groove in a Direction downwards and forwards, or towards himself, he divides that Part of the Sphincter of the Bladder that lies upon that Gland, and then he cuts the Outside of one half of it obliquely, according to the Direction and whole Length of the *Urethra* that runs within it, and finishes his internal Incision, by dividing the muscular Portion of the *Urethra* on the convex Part of his Staff.

WHEN he first began to practise this Method, he cut the very same Parts the contrary way; that is, his Knife enter'd first the muscular Part of the *Urethra*, which he divided laterally from the pendulous Part of its Bulb to the Apex, or first Point of the prostate Gland, and from thence directed his Knife upward and backward all the way into the Bladder; as we may read in the *Appendix* he lately published to the Fourth Edition of his Book of *Anatomy*. But some time after he observed, that in that Manner of Cutting, the Bulb of the *Urethra* lay too much in the way; the Groove of the Staff was not so easily found, and the *Intestinum Rectum* was in more Danger of being wounded.

A SUFFI-

A SUFFICIENT Opening being made, Mr. *Cheselden* rises from his Chair, his Finger still remaining in the Wound, and calling for the Gorgeret, he puts its Beak into the Groove of the Catheter, and so thrusts it into the Cavity of the Bladder, where he is often at once sensible of the Stone, which thus becomes a Direction to him when he uses his Forceps.

THIS done, he draws out the Staff, and holding the Gorgeret in his Left-hand, he introduces the Forceps, the flat Side uppermost, sliding them with great Caution along its concave Part, nicely observing when they pass the Wound into the wide Part of the Bladder, and then he withdraws the Gorgeret, and taking hold of the two Branches of the Forceps with both his Hands, he searches gently for the Stone; they being still shut, and having felt it, he opens them, and endeavours to get the undermost Blade under the Stone, that it may fall more conveniently into their Chops, and so be laid hold of; which being done, he extracts it with both Hands, one upon the Ends of the Forceps, the other about the Middle, but with a very slow Motion to give the Parts time to stretch and dilate, which he promotes by turning the Forceps gently in all Directions, taking all possible Care that it may not slip; of which if he perceives any Danger, he endeavours to recover it again without pulling his Forceps out.

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IF the Stone is pretty large and smooth, and lies in that *Sinus* of the Bladder on the same Side with the Wound, he draws it out with the greatest Facility imaginable, in Subjects of all Ages. But when he observes that the Stone is either very small, or does not lie right to the Forceps, he immediately pulls them out, and introducing his Finger into the Bladder, he tries to turn it, and to disengage it from the Folds of the inner Membrane, in which it is sometimes entangled. Then he thrusts in his Gorgeret upon the upper Side of his Finger; which being drawn out, he turns the Gorgeret, and introduces his Forceps, and so extracts the Stone; but without any manner of Hurry or Precipitation.

To preserve a soft Stone from breaking during the Time of Extracting, he puts one or more of his Fingers between the Branches of his Forceps, to prevent any greater Pressure upon it, than what is just necessary to hold it together. But if notwithstanding all his Care, a soft Stone happens to break, or where there are more than one in the Bladder, he extracts the single Stones or Fragments one after another, repeating the Introduction of his Fingers and of the Forceps, either upon that when it can be done, or upon the Gorgeret, as often as there is Occasion. I have sometimes seen him extract two Stones, engaged in the Chops of the Forceps at the same time.

ONE

ONE needs not be surprized at the frequent Introduction of the Forceps and Fingers, which is absolutely necessary upon some Occasions; for it is never attended with any bad Consequence when cautiously manag'd, that is when due Care is taken not to thrust the Forceps so far in as to wound or bruise the Bladder, or to perforate the same (which is always mortal) in the opposite Side. We ought likewise to be very cautious that we don't pinch the whole Substance of the Bladder, or some of the *Plicæ* of its inner Coat only, which is very difficult to avoid, when some Fold of it lies very close to the Stone; in which case it may easily be torn off and drawn out together with it.

HE performs this Operation with so much Dexterity and Quickness, that he seldom exceeds half a Minute, unless when he is obliged to take up and tie the Vessels before the Stone is extracted, or when there happens to be something uncommon in the Stone it self.

The Method of CURE.

UNDER this general Head I comprehend,

I. THE Accidents that either happen immediately after the Operation is over, or before the Cure is finished.

II. THE

II. THE Method of curing the Wound.

III. THE Regimen or Dyet of the Patient during his Illness.

THE first Symptom or Accident that sometimes happens before the Person is put to Bed, is a Flux of Blood from the divided Arteries. As soon as Mr. *Chefelden* perceives this, he presently takes up the Vessels with the crooked Needle, and ties them with a Ligature made of waxed Thread, drying the Wound with a Bit of soft Sponge wrung out of warm Water, that so he may the more readily discover the Orifice of the Vessels, and see if any more bleed, which are afterwards to be ty'd separately one after another. It sometimes happens the Flux of Blood is so great upon making the external Wound, as to endanger the Patient, he is obliged to tie the Vessels before he extracts the Stone. But if from the continued Hamorrhage or Flux, when all the external Vessels are secured, he apprehends that it must proceed from the Division of some of the arterial Branches that are ramify'd on the Membrane, which covers the *prostate* Gland, he thrusts up a small Pledgit or two dipt in a Styptic Liquor, which seldom fails to check it, tho' the Parts affected remain altogether free from Compression.

THE

THE other bad Symptoms and Accidents that may happen after the Patient is carry'd to his Bed, whether from the Patient's ill Habit of Body, want of due Preparation, either in Dyet or any other Cause, are very numerous in all the Methods of *Lithotomy*, as may be seen in Authors who treat of that Subject. But as none of these are peculiar to Mr. *Chefelden's* Operation, I shall only mention a few of the most remarkable, and chiefly of such in Curing of which he has made some new Observation or successful Experiment.

If there should be any Tension, Inflammation, or Swelling in the *Abdomen*, which has never yet happen'd to him in any considerable Degree, tho' it frequently happens to those that are cut the old Way, he thinks it would be very proper to throw up a Clyster; and if that does not answer, he would give a gentle Purge. But if these Symptoms should continue, and be attended with violent Pain, he says, a quieting Draught may be given. But what I would chiefly observe here is, that this is the only Case in which Mr. *Chefelden* does allow of an Opiate; because he says all Opiates or sleepy Medicines do not only hinder a regular Digestion, but even put a Check to it when begun.

If either before or after the Suppuration appears, he perceives the Pulse to flag, or be too slow, he presently applies a Vesicatory to the Arms, which he says is likewise

wise of excellent Use to promote Digestion, by warming and increasing the Motion of the Blood; and he observes that it's but seldom attended with any Strangury or Pain in making Water.

If he observes any great Foulness in the Wound, he mixes a little Verdegreafe with the common Digestive, with which he dresses.

AND, in the last place, if the Wound becomes hard, callous, and fistulous, he dresses its Lips with a little Bit of blistering Plaster, which removes the Hardness and Dryness, and soon disposes the Wound to new Granulations, and in a short Time compleats the Cure.

II. THE Method of Curing the Wound is much the same as in all simple Wounds, for in this manner of Working there are no Bruises nor Contusions, (which always retard the Cure) to be taken care of.

BEFORE the Patient is removed from the Table, Pledgits, covered with the common Digestive, are applied to the Lips of the Wound, where they are secured and held on by the Hand of a Servant, who assists in carrying him to Bed, and afterwards very slight Bandages are only made use of to keep them on.

THESE Dressings are changed twice a Day, and continued without any great Variation till the Wound begins to cicatrize. Afterwards he applies a little dry Lint no bigger than the Wound, and over that the common Pledgit.

As to their Diet, that is only weak Broth, Sage-tea, Sack-whey, a Bit of Bread and Butter in a Morning, &c. This low Regimen is to be ordered for the first four or five Days; but as soon as laudable Matter is formed, and a good Digestion appears, a Bit of boiled Chicken may be allowed once a Day, and then any other sort of fresh Meat in a small Quantity.

To prevent being costive, Water-Gruel with Plumbs is good to keep the Body open: but if he has not had a Stool before the fifth Day, a Clyster may be given.

THE Suppuration commonly begins about the fifth Day, unless in a Patient of an ill Habit of Body, where the scalding of the Urine, especially in hot Weather, hinders it.

IN Children the Urine comes wholly by the *Urethra* about the 14th Day, and in Men about the 20th; but in both some Part of it passes that Way several Days sooner, the rest still coming thro' the Wound.

IN six Weeks Time adult Persons are often perfectly cured; and for Children, they are generally well in half that Time.

The P A R T S concern'd.

I COME now to the sixth Part of my Design, the Enumeration of the Parts concerned in this Section; these I have had several good Opportunities of examining in dead Subjects, upon which Mr. *Chefelden* was so kind as, at my Request, to perform his Operation: I once likewise opened the Body of a Patient who had been Cut by him for the Stone, in which I found the Parts divided in the very same manner in which they were Cut in the dead Bodies I had dissected.

THE Parts he Cuts are,

1. THE common Integuments of the *Perinæum*, and a little farther back between the Protuberance of the *Os Ischium* and Extremity of the *Os Coccygis*, that is, the *Cuticula*, *Cutis Vera*, and the *Membrana Cellularis* or *Adiposa*.

2. HE divides sometimes the subcutaneous Portion of the *Sphincter Ani*, that is spread for some space from its *Limbus* or Orifice, immediately under the true Skin, lying on the Fat.

3. NEXT

3. NEXT under the Integuments, if his Incision begins high, he cannot always avoid that lateral Part of the *Constrictor Urethrae*, that is closely joined to the *Erector Penis*, but he must always cut that Portion of the same Muscle that lies on the *Ligamentum transversum*.

4. THE *Musculus transversalis Urethrae*, in passing over the last mentioned Ligament, in Subjects where that Muscle is found, must likewise suffer.

5. HE next divides that triangular, broad, tendinous, strong Ligament, which runs between the *Rami* of the *Ossa Pubis*, laterally, above it adheres to the Ligament that touches these Bones at their Commisfure, but chiefly to the *Crura Corporis Cavernosi Penis*, and below, to the upper Part of the *Sphincter Ani*. In the Middle of this tendinous Kind of *Septum* there's a large round Perforation for the Passage of the membranous narrow Part of the *Urethra* covered with its Muscle; and from this Perforation or Hole it is divided obliquely all the way to its lower Edge.

6. UNDER this Ligament, upon Part of the *Levator Ani*, the *Prostatæ Inferiores* are situate, commonly known by the Name of *Cowper's Glands*; one of which, or, at least, the large Duct that goes from it, and

and enters the membranous Portion of the *Urethra*, can never escape being Cut.

7. HE divides in a pretty oblique Direction a large Portion of the *Levator Ani*, that lies on the Inside of the *Ligamentum Pubis Transversum*. It is, however, possible to divide a good deal of the Prostate without Cutting this Muscle quite thro'; but if he enters the Substance of the Bladder first, it must be quite divided.

8. IN Cutting the Parts abovementioned, he cannot miss dividing several arterial Twigs that come from the great Vessel, called *Arteria Pudenda*, which parts from the *Arteria Iliaca interior*, within the *Pelvis*, but without the *Peritonæum*; whence, passing thro' the great Sinuosity of the *Ischium*, and over the sharp Process of that Bone, it is carried along the Inside of the *Ramus* of the *Os Pubis* to the *Dorsum Penis*, where it terminates near the Glans.

9. HE Cuts likewise some nervous Twigs, which proceed from a small Branch that proceeds from some of the Nerves that pass thro' the uppermost Hole in the Foreside of the *Os Sacrum*, and, together with more, constitute the great *Ischiatick* Nerve; this runs the same Way towards the Glans of the *Penis*, in close Conjunction with the Artery.

THESE,

THESE, I believe, are all the Parts thro' which a large Passage is made to the *Iter Urinae* or Canal that leads to the Cavity of the Bladder: But as Mr. Cheselden does not always make his outward Wound precisely in the same Place, some small Variety, that is no ways material, may happen with respect to some of them.

THE internal Wound is thro' the Bladder, prostate Gland and *Urethra*.

1. THE *Vesica Urinaria*, covered with the *Membrana Cellularis*, is cut in two Places, viz. first a small Portion of it a little above the prostate Gland, on the Left-side, where he enters the Knife first into the Groove of his Staff, and then Part of the Bladder which lies round the Orifice upon the upper Part of that Gland.

2. THE Substance of one half of the prostate Gland is likewise divided laterally from without, inwards in the Direction of the *Urethra* that lies within it, thro' the whole Length of that Part of the Canal.

3. THE *Iter Urinae*, or Canal of the *Urethra*, is divided in two Places, and both laterally: First, the beginning of it, which runs thro' the Substance of the Prostate lengthways, at the same Time the Incision is made

made thro' it, and the *Urethra* into the Groove of the Staff.

THE next is the membranous Part of the *Urethra*, with the circular Muscle that surrounds it, beginning at the *Apex Inferior* of the Prostate, and ending a little beyond the Hole in the *Septum Tendineum*, under the pendulous Part of its Bulb.

4. WHEN the prostate Gland is divided near the *Rectum* or back Part of the *Pelvis*, a large, strait, arterial Branch can seldom escape the Knife; but the small Twigs that are ramified most plentifully on the Capsula of that Gland, are always divided where-ever the Wound is made.

5. THE nervous Twigs that accompany the Arteries, are likewise cut in this Place.

TO this short Enumeration of the Parts, one Observation may be added, which is, that if the Operator turns the Edge of his Knife too far backwards, and then raises it to cut, he can scarcely be able to avoid wounding the *Intestinum Rectum* pretty high, some Part of the *Vesiculæ seminales* next the Prostate, and the *Verum Montanum* within the *Urethra*, that runs thro' that Gland, together with a larger Portion of the *Levator Ani Anterior*, and of the *Ligamentum Suspensorium Vescæ*, that closely embrace it. The

lowest Part of the *Intestinum Rectum*, near the *Sphincter*, may likewise be cut. These therefore may be mentioned as Parts to be avoided in this Method of Cutting; but the Truth of the Matter is, none of them can be in any great Danger, while the Operation deserves the Name it now goes by, that is, while the Parts proposed to be cut are all divided laterally.

Mr. Cheselden's Method, compared with that of Marianus.

I COME, in the last place, to compare Mr. Cheselden's Operation with the *Apparatus Major*, or that of *Marianus*, in which the Incision is made in the *Perinaeum*, on one Side the *Raphe*, and in the same Direction with it, ending a little above the *Anus*. The *Constrictor Urethrae* is next divided, together with an Elongation of the *Sphincter Ani*, and afterwards a Passage is opened into the *Urethra*, thro' its *Corpus Spongiosum* and Bulb, all the Way down to the beginning of the membranous Part, and this in the same Direction with the Wound in the Integuments, for which the grooved Catheter serves as a Guide, the Handle of it being held almost perpendicular to the Patient's Body by an Assistant.

THE Incision being finished, two Conductors, or a Gorgere, are passed thro' it into the Groove of the Staff, and upon that are introduced thro' the long, narrow,

row, crooked Canal of the *Urethra*, into the Cavity of the Bladder. Then the Staff being drawn out, the Forceps is thrust in upon the Gorgeret, or between the Conductors, which being afterwards removed, the Operator lays hold of, and extracts the Stone in the best manner he can.

IN this Operation therefore, the *Foramen* in the transverse Ligament, the membranous Part of the *Urethra*, covered with its Muscle, and that other Portion of it, which lies within the Prostate, the prostate Gland itself, and the Orifice, with the *Sphincter* of the Bladder, must be first excessively dilated, and afterwards, most commonly, if not always, dilacerated. These are likewise the principal Parts concerned in Mr. *Chefelden's* Operation; and therefore, in order to shew the Advantages thereof, it could not have been so well compared with the high Way, or that of Professor *Rau* (in both which the Parts concerned are vastly different) as with that of *Marianus*, because from the different Treatment of these Parts in each Operation, as well as from some other Considerations arising from thence, the Excellency of the one above the other will clearly appear.

THE first general Class of Advantages in Mr. *Chefelden's* Operation, above that of *Marianus*, arises from the Nature of the Wound made in both, that is, from its Size, Situation, and Distance from the Stone or Ca-

vity of the Bladder. In *Marianus's* Operation, the Wound being necessarily very small, the Management of the Instruments, and especially of the Forceps, must be much more difficult than in Mr. *Cheselden's*, where a large outward Incision affords Room enough to turn them in any Direction that can be desired. In the next place, the largest Stone will easily pass thro' Mr. *Cheselden's* Wound; but in the old Operation, a Stone larger than the Diameter of the Wound, as it frequently happens to be, must, when it is brought as far as the Skin, force that outwards along with it, and so, besides the Difficulty this causes in the Extraction, break and disorder the Texture of the cellular Membrane, immediately under or within it; the Consequence of which must be Obstructions and other Disorders, which being communicated to the *Scrotum*, dangerous Inflammations, Tumours, and even Mortifications, may happen in that tender Part. There are Instances, indeed, of very large Stones extracted in the old Way, but then, the Constitution of the Patient has been good enough to ward off the fatal Effects of the Accidents. I have mentioned; or the Operator has ventured to enlarge the outward Wound by an oblique Incision thro' the Integuments, before he could draw out the Stone. In the third place, a large external Orifice mightily facilitates the Cure, by allowing free Room for a Discharge of Matter, and affording a larger Quantity of that Gleet, as it may be termed, which is the Fore-runner of Digestion; and likewise preventing the Danger of
a Mor-

a Mortification, always to be feared when the Orifice is small, whereby the Humours are pent up and checked in their Course.

THIS Discharge is very much promoted by the Situation, as well as by the Size of the Wound, in Mr. *Chefelden's* Operation, where it is much lower than in the other, and consequently the Orifice more depending, which is justly esteem'd a capital Advantage in the Cure of all Wounds, whether accidental or designed. Again, in Mr. *Chefelden's* Way, the Stone passes between the *Rami* of the *Ossa Pubis* and *Ischii*, near the great Pro-tuberance of the last named Bone; and where they are most distant from one another, and consequently cannot create any Difficulty in extracting it, let it be never so large: Whereas in the old Way, the Situation of the external Orifice makes it necessary that the Stone should pass much nearer the Angle by which the *Ossa Pubis* are joined together, thro' a much narrower Space, so that a large soft, or brittle Stone must infallibly be broken in its Passage, and a hard one be forced lower down, to the great Detriment of the soft Parts concern'd; or there must be a Contusion of that strong ligamentary Substance, situated in the Angle formed by the *Ossa Pubis*, upon which the *Urethra* lies, and by which the *Thalamus Penis*, as it is termed by *Sanctorius*, is much enlarged. The same Accident may happen to a pretty large Nerve and arterial Branch in their Passage over this Ligament, up to the *Dorsum Penis*.

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THE Distance between the Wound and Cavity of the Bladder where the Stone lies, and the Curvature of that Part of the *Urethra* that goes between these, in *Marianus's* Method, has been the Source of a new Train of melancholy Accidents. Thus in thrusting in the Gorgeret or Conductors, the membranous Part of the *Urethra* has often been perforated, and so the Way to the Bladder altogether lost, the Instrument passing on between the prostate Gland and *Intestinum Rectum*. The Consequences of this Accident, especially if not speedily perceived, are very obvious; but even after the Operator has discover'd his Mistake, and actually recover'd his Way into the Bladder, if his Instruments are much resisted in any Part of their Passage, especially at the Prostate and Orifice of the Bladder, the *Urethra* may be quite tore asunder at the perforated Part, and be intirely separated from that Gland. But as this Canal is manag'd in Mr. *Chefelden's* Way, all Possibility of this Accident is avoided. Again, there is so much Difficulty and Force required to thrust the Instruments into the Bladder, and withal so much Uncertainty how far they may safely go, that before the Operator can stop his Hand, he often wounds, and sometimes perforates the opposite Side of the Bladder, than which no Accident attending this Operation, can be more dangerous; but it is not much to be feared in Mr. *Chefelden's* Way, in which all these Difficulties and Uncertainties are taken off. When at length, the For-

ceps

ceps is safely got into the Bladder through a long, narrow, crooked Passage, which incumbers the Operator very much in the Management of them, he must often meet with more Difficulty than Mr. *Chefelden* ever can, in laying hold of the Stone at all; in laying hold of it in the most advantageous Manner; and in extracting it without breaking or letting it slip. He is likewise in much greater Danger of pinching the Bladder either with or without the Stone, especially when the Cries of the Patient augment the Pressure on its upper Side, and force it downwards; and accordingly, Experience has shewn, that by this Accident, the whole Bladder has been drawn out along with the Stone.

THE next general Series of Advantages arises from the different Treatment of the Parts that lie between the external Wound and Cavity of the Bladder, and that both in respect of the Facility and Safety of introducing Instruments, and extracting the Stone, and of the Consequences to be dreaded from the Contusion and Dilaceration of the Parts. In Mr. *Chefelden's* Operation, where all these Parts are divided by the Knife in the Manner already said, and the external Incision made very low down, a direct Passage is opened into the Bladder; whereas in *Marianus's* Way, where the Situation of the outward Orifice obliges the Operator to follow the whole Curve Direction of the *Urethra* round the Arcade of the *Os Pubis*, the Introduction of the Instruments must, upon that Account, be extremely difficult:

difficult: But that Difficulty is still very much augmented by the Size of the Instruments and Stone compared with the Narrowness of the Canal, the Resistance of the *Ligamentum Transversum*, prostate Gland, and Sphincter of the Bladder; all which being artfully divided in Mr. *Chefelden's* Way, this Resistance is taken off, and the Introduction of the Instruments, and Extraction of the Stone render'd perfectly easy. Again, in strong-contracted Bladders, whether from their natural Structure or Effect of the Disease, the Orifice surrounded by the *Prostata*, has been found to resist the Introduction of the Instruments so much, as that before it gives way, the longitudinal Fibres of the Bladder that arise from the *Ossa Pubis*, have been tore from their Origins, and so render'd incapable of acting ever afterwards; and likewise the tendinous Membrane that is spread from the *Ossa Pubis* over the *Prostata* and Bladder, very much disorder'd, but when the Orifice of the Bladder is previously divided, nothing like this can happen; neither is it ever to be feared, that the Sphincter Muscle should lose its Elasticity or Power of Contraction, and so remain paralytick, as often has been the Case, from its being too forcibly dilated in *Marianus's* Operation, by which an Incontinency of Urine is intail'd on the Patient for Life; for in Mr. *Chefelden's* Operation, the Sphincter of the Bladder is cut in its natural State, and so will readily unite again; but in the *Apparatus major*, the Dilaceration thereof happens after the Fibres have been stretched and dilated to their utmost Extent, and

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consequently reduced to a State in which they can never recover themselves for the future.

Contusions and *Dilacerations* of the Parts come next to be consider'd. These are unavoidable in *Marianus's* Way, and the Dilaceration must not only always be made at Random, but often in different Places at once, of the same Part: The Canal of the *Urethra*, for Instance, being first dilated by the Instruments to its utmost Extent, must afterwards break in the weakest Part, on whatever Side that lies; and if it be all equally strong, and equally dilated, it will be tore in two or more opposite Places at the same Time; whereas in *Mr. Cheselden's* Way, could any such Dilaceration happen, it must always be on the wounded Side only. And indeed this new Operation is principally founded on the Difference of Wounds by Incision, and those by Rupture or Dilaceration, the latter being, according to *Celsus's* Maxim, by far the most dangerous. And from hence it is, that in *Marianus's* Operation the Cure is rendered much more tedious and uncertain, because of the previous Suppuration that is required, and the Danger there is of a Mortification before that can be brought on; but when the same Parts are cut with the Knife, they unite again very speedily, and the Wound is cured almost by the first Intention. Another Accident which may happen from this Contusion and Tearing of the Parts, is, that they may be so far shattered and broke, as that a considerable Loss of Substance must necessarily

attend the Suppuration, and the Wound never afterwards uniting, the Sides growing callous and hard, a Fistula remains, and from thence an Incontinency of Urine. *Multo patientiorem Fistulam habiturus est*, says Celsus, *rupta cervice quam habuisset incisa*. From this same Source of Contusions, the Ducts of the *Vesiculæ seminales*, that enter and run thro' the Back-side of the prostate Gland, and open into the *Urethra*, may be so far disordered, as never to be able to recover themselves, upon which Impotency must ensue. But none of these Accidents can happen in Mr. *Chefelden's* Operation, except from such gross Mistakes which every Operator must be supposed always incapable of falling into.

ON all these, and perhaps several other Accounts, Mr. *Chefelden's* Operation is preferable to that of *Marianus*; but it must be further observed, that the Inconveniencies attending this last are not all of the same Kind; some of them arise from the very Nature of the Operation, and are such as no Operator can possibly prevent: Others are more accidental, but then all the Accidents here taken notice of, are such as have actually happen'd, and to which this Method must always be much more liable than that of Mr. *Chefelden*. I will not, however, deny, but that the *Apparatus Major*, in its turn, may have some seeming Advantages over the new lateral Way.

OR

OF these, two have been mentioned; the first, that in the old Way the Operator holds the Staff himself, and so may direct and humour it better for his own Purposes than an Assistant can possibly do. But this Advantage loses much of its Force when it is considered, that in Mr. *Chefelden's* Way the Staff is kept fixed and immovable till he extracts it himself; this any Assistant can do as well as the Operator, who being freed from this Incumbrance, is more at Liberty to go thro' the Operation, especially to make the inward Wound, in which both Hands are required.

THE other Disadvantage will appear much more considerable. In *Marianus's* Operation, when the Blood Vessels retain their common Course, none are liable to be cut that can occasion an Hæmorrhage of any Consequence, being only the small Twigs ramified in the *Corpus Cavernosum* and Bulb of the *Urethra*; but in the lateral Way several arterial Branches, both external and internal, are divided, and a large Flux of Blood most commonly caused thereby. This is undoubtedly an Inconveniency; but I have not heard that any bad Accident has hitherto happened upon it, to any Patient cut by Mr. *Chefelden*; the Flux from the external Branches being easily stop'd by Ligature, as that from the internal one has hitherto always been by him, by the use of a proper Styptick.

P O S T S C R I P T.

THROUGH the whole of this Appendix I have avoided saying any thing concerning the History of Mr. *Chefelden's* Operation, neither have I at all endeavoured to determine how far the Discovery thereof is to be attributed to him, or how far it may be ascribed to some other; my Design leading me no farther, than to recommend his present most successful Manner of Cutting for the Stone, and to describe it with all the Accuracy I was capable of, that others may thereby be enabled to perform it. However, to give some Satisfaction to those who are curious of such historical Affairs, and at the same Time to obviate the Cavils, Objections, and Misrepresentations of the Ignorant or Invidious, I shall here set down a few Matters of Fact, together with the Consequences arising from them, as far as they relate to Mr. *Chefelden*.

IN his Operation the external Incision is in no material Circumstance different from that directed long ago by *Paulus Aegineta*, *Albucasis*; and, indeed, by all the Authors (*Brunus* and a few others of the darker Ages excepted) who have wrote since *Celsus*, whose Incision was quite different, concerning the *Apparatus minor*, or Cutting on the Gripe, as we now call it. And even the Advantage of a large outward Orifice, in
order

order to facilitate the Discharge of Matter from the Wound, is mentioned by *Ægineta* and *De Franco*, and particularly applied to the Operation of Lithotomy; yet I am well satisfied none of these were so large as those made by Mr. *Cheselden*.

CONCERNING the internal Incision, we must likewise observe, that several Authors, who describe the outward Wound as already said, have also proposed that some of the Parts, thro' which an immediate Passage is opened by Mr. *Cheselden* into the Cavity of the Bladder, should be divided laterally. Of these, the most antient that I know of, is *Petrus Franco*, the celebrated Author of the *Hypogastrick Section*, which we now call the *High Operation*; and likewise the first Lithotomist who joined the *Apparatus major* and *minor* together in one Operation; but then from the Figure of his Catheter especially, and from the Directions he gives, it is very evident that he could divide the *Urethra* no farther than the *Apex* of the Prostate; that Gland, the *Urethra* within it, and the Orifice of the Bladder being in this Operation left untouched by the Knife. So that the whole Improvement made by *De Franco*, consisted in Cutting the *Urethra* about one Inch further than was done in *Marianus's* Method, for it is now above thirty Years ago that Mr. *Mery* told us, that in the *Apparatus major* the Incision was so far from reaching into the Cavity of the *Vesica*, that it really went no farther than the very beginning of the mem-

membranous Part of the *Urethra*, just under its Bulb. Mr. *Thevenin*, a Surgeon in *Paris*, has made the very same Observation in a Book of Surgery, which he published in the Year 1658. This Way of Cutting is likewise mentioned by the judicious *Hildanus*, both he and *Franco* having actually performed it on living Bodies: And I am very much of Opinion that it has been frequently practised of late, both here and elsewhere, by those who have attempted to cut after Mr. *Chefelden's* Manner.

A THIRD Author, who has very strenuously recommended a Method like this of *De Franco's*, but, as far as I can learn, never put it in Practice, is Monsr. *Mery*, of the Royal Academy of Sciences; he proposes that the membranous Portion of the *Urethra* alone should be cut, the Neck and Body of the Bladder being left intire, that is, in plain *English*, that the Incision ought to reach only to the nearest Part of the Prostate, called its *Apex*, as was done by *De Franco* 140 Years before him. All that this accurate Anatomist has added, to what is to be found in that Author, and in *Hildanus*, is only a longer and more curved Catheter and a much better Description of that Part of the *Urethra* which lies between its *Corpus Cavernosum* and prostate Gland, together with the manner of using a particular kind of *Bistouri*, with a pointed Stilet fixed to it, which is not very easily understood, and will, I cannot help saying, never be used by any Body.

I MIGHT

I MIGHT have added something concerning Mr. *Chefelden's* Instruments, and his Way of Implying them, as for Instance, that *De Franco's* Gorgeret and the Point of the Razor which he used for an Incision Knife, are something like his in their Shape and Figure; but waving these Trifles, as being of very small Consequence to the main Point in Question, I think it is evident from what I have said, that the Continuation of the internal Wound thro' the Side of the Prostate, thro' that Portion of the *Urethra* which lies within it, that Part of the Bladder which lies upon it, with a small Portion thereof above the Gland, thro' which his Knife first enters into the Groove of the Staff, are Improvements owing to Mr. *Chefelden*, having never been proposed by any Lithotomist before him that we know of, upon all which the Excellency and Success of the Operation depends. It is true indeed, that, as I have related at full Length in my History of the Lateral Operation, that Mons. *Mery* mentions one Experiment, made by the famous *Frere Jacque*, on a dead Body, and which he afterwards open'd, in which the very same Parts were divided as in Mr. *Chefelden's* present Way; but all this was meerly accidental, owing to the Ignorance of the Monk, and his want of Attention, which made him often thrust his Knife at Random, quite out of the Way by which he always purposed to get into the very Body of the Bladder. But what is still more surprising is, that tho' Mr. *Mery* was extreemly pleased at this Appearance, and
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seemed then to ground his Approbation of *Frere Jacque's* Method principally upon it, yet, in the Amendments which he afterwards contrived, he declares himself to be of Opinion, that none of these Parts, except the membranous Portion of the *Urethra*, ought to be cut. This Author therefore can have no Title to the Discovery of any Part of Mr. *Cheselden's* Operation; the main Advantages of which, consisting in artfully dividing these very Parts that must be dilated, contused and dilacerated, not only by the *Apparatus major*, (as is well observed by that excellent Surgeon Mr. *Le Dran*, who, in my Opinion, has lately given us the best Treatise that ever was written on *Lithotomy*) but also by that Method proposed by *De Franco*, and improved by Mons. *Mery*; it is but reasonable to suppose, that it was the Consideration of these Advantages, founded on *Celsus's* Doctrine about the Difference of Wounds by Incision, and these made by Rupture or Contusion, and not by any Hints that he might have had from them, which led him to the Discovery of it. But the whole Truth of the Matter is this;

Mr. *Cheselden* had often observed, that the reason why fewer Women died after the Extraction of the Stone, than Men who were cut the old Way, was entirely owing to the different Texture of the Parts thro' which the Stone is drawn, and to the wrong Management of these Parts, much after the same manner in both Sexes.

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FROM whence he very judiciously inferred, that if he could once bring the Parts in a Male, to an Equality in Disposition with those that are dilated in a Female, he should not at all doubt of having the same Success; and indeed the Event has abundantly answered his Expectation. Now, in order to bring this about, he resolved for the future, previously to divide the Parts that were capable of giving any Resistance, and very subject to be torn; that is, he cuts with his Knife, and divides laterally the membranous Part of the *Urethra*, which is much narrower than in Women; the transverse Ligament, which is vastly stronger than in Women; and the prostate Gland, which in some Subjects is very hard and firm, but in all is cased round by a tendinous Membrane of a very compact Texture; and besides, as a Capsula, binds its whole Substance very close together. Thus, all the Resistance being taken off, the Parts readily yield, and the Operation becomes equally safe in both Sexes; and thus this new Method is free from some Inconveniencies, which, even in Women, must arise from too great a Dilatation, and tearing the *Urethra* and Orifice of the Bladder; the Sides of which he divides in Men, and thereby prevents the Danger.

THUS it plainly appears that Mr. Cheselden's Operation, as now practised by himself, is not to be found altogether or complete in any one Writer extant.

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BUT,

BUT, to conclude, Mr. *Chefelden* is much less solicitous for the Credit of being an Inventor, than he is to have his Operation understood and practised in a right Manner, for the Good of the Publick. However, as his Success in it, has been vastly greater than can be pretended to by any one, in any Method whatsoever, it is but just that the World should know to whom it owes so great an Improvement in the Art of Surgery; which, as it affords great Comfort to Mankind, so does much Honour both to himself and to our Country.

Covent-Garden,
July 25. 1731.



THE



THE
EXPLANATION
OF
Mr. Cheselden's Instruments
FOR THE
STONE.

FIG. I.

Represents the *Catheter incurvus, sulcatus*, or crooked Staff with a Groove.

- a. *The Manubrium or Handle.*
- b. *The Shank.*
- c. *The bent or crooked Part.*
- d. *The Rostrum or Beak, which is strait.*

G 2

FIG. II.

FIG. II.

Exhibits the flat Side of the Handle, all the Shank, and some of the hollowed, deep Part of the Staff.

- a. *The Handle, with the Mark of that excellent Workman Mr. Cooke in Lombard-Street.*
- b. *The Shank.*
- c. *As much of the grooved Part as can be seen in this View.*

FIG. III.

Shews a Portion of the strait Beak near the Extremity.

- a. *The Edges which are blunt and very smooth.*
- b. *The Extremity which is open, whereas formerly it was made always shut, the Edge being continued quite round.*

FIG. IV.

Represents the Incision Knife, whose Point is just in the Middle of the Blade.

FIG. V.

FIG. V.

Gives a View of the whole hollow Part of the Gorget.

- a. *The Manubrium or Handle turned to one Side, for the easier Introduction of the Forceps.*
- b. *The hollow concave Part.*
- c. *The Edge of the Button at the narrow End.*

FIG. VI.

Represents the Handle of the Gorget in its whole Breadth and Length.

FIG. VII.

Shews the flat Side of the Button, at the End which enters the Groove of the Staff.

FIG. VIII.

Represents the great Pair of extracting Forceps.

- a. *The Screw Rivet in the Joint.*

b. *The*

- b. *The Blades.*
- c. *The strait Part of the Handle or Shank.*
- d. *The crooked Part of the same.*
- e. *The open Bow in which the Shank ends.*
- f. *The close Bow.*

FIG. IX.

Shews the hollow Inside of one of the Blades, commonly called its Chops, with a great Number of Teeth or Points turned backwards.

FIG. X.

This gives a View of the small Pair of Forceps, which he commonly makes Use of in most of his Operations.

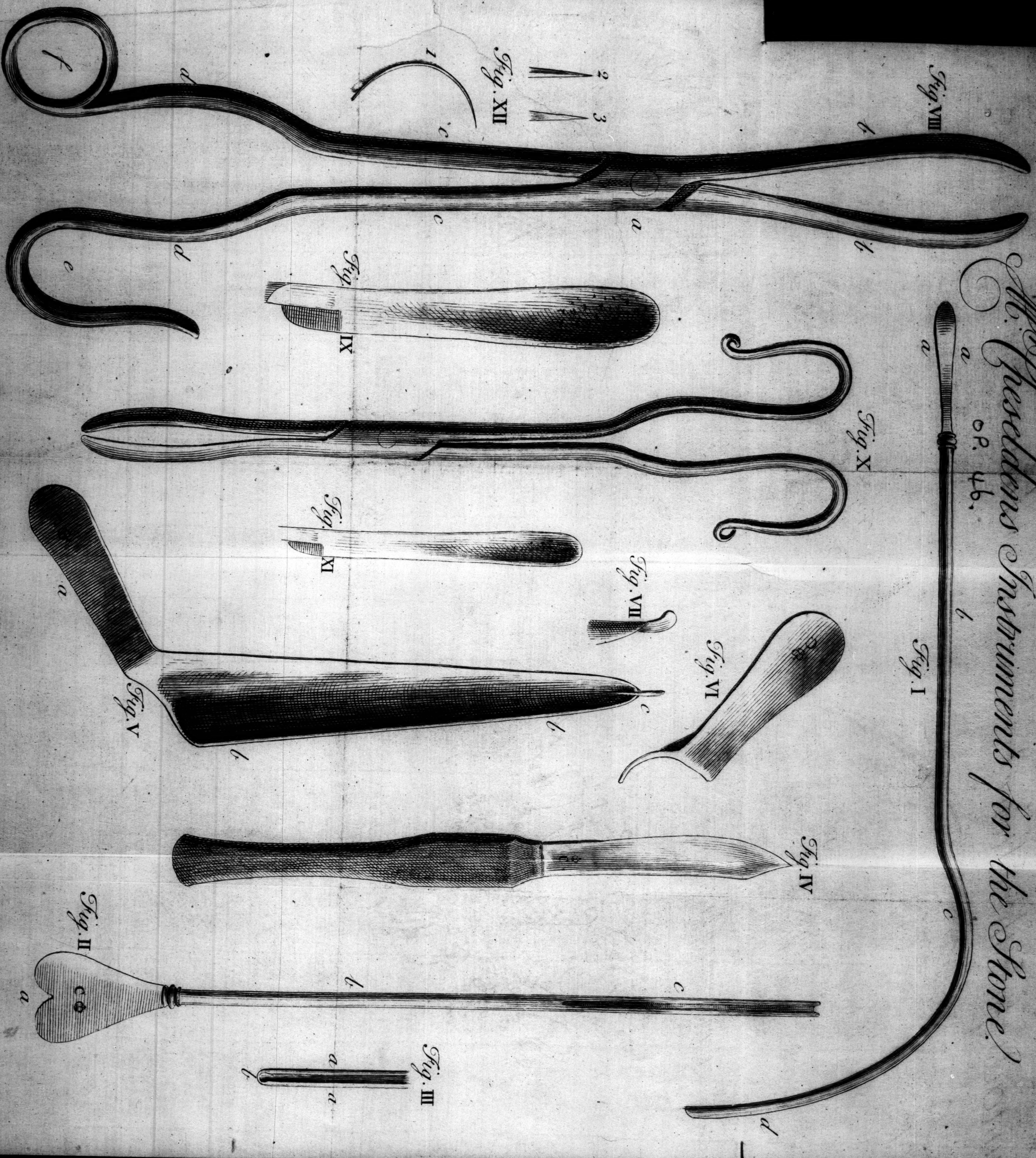
- a. *The Blades don't shut close at the Ends, because they are contrived to press upon the Joint which hinders them.*

FIG. XI.

Shews the Inside of one of the Chops, toothed like the former.

FIG. XII.

W. Cheselden's Instruments for the Stone.
a
O.P. 46.
b



F I G. XII.

Represents the Needle in three Views.

The 1. Shews the whole Needle lying edgeways.

The 2. The Inside, near the Point, which is a little raised in the Middle.

The 3. The Outside, which is quite flat.



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